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An independent study project report by The Charles C. Holman Endowed Rose and Flower Garden Intern (2017-2018)

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An Evaluation and Interpretation of the Roses in the Rose Garden

Abstract

This project aims to assist current and future rosarians in evaluating the roses in the Morris Arboretum's Rose Garden. This will be accomplished by updating the current Rose Garden database and researching the histories of selected roses. An updated database, plus the monthly evaluations of the roses, will allow for the determination of the best performing roses for this area. The histories will serve to highlight the importance of the Rose Garden and *Rosa* as a genus. Acknowledging the lack of consolidated information about the Rose Garden available to the public, this need will also be addressed. A website for the Rose Garden will be created for use by the public. A self-guided tour will also be created and posted on the Rose Garden website to encourage visitors to see the entirety of the Rose Garden. As a final product, interpretive metal photo labels will be created to be placed in front of the ten roses.

Disciplines

Horticulture

Comments

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AUTHOR: Erin Conley,
The Charles C. Holman Endowed Rose and Flower Garden Intern

DATE: MARCH 2018

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TABLE OF CONTENTS

INTRODUCTION.....	3
METHODS.....	3
RESULTS.....	4
CONCLUSION.....	4
ACKNOWLEDGEMENTS.....	4
REFERENCES.....	5
APPENDIX A.....	8

INTRODUCTION

Incredibly historic plants, roses should not just be appreciated for their high ornamental value but also for their long and significant history. The rose is thought to have originated anywhere between 200 and 70 million years ago (Potter, 2010). The first mention of the rose in history is as an oil. It is mentioned in the famous *Illiad* by Homer, as “rose-sweet, ambrosial” which covers Hector’s body so Achilles does not hurt it during dragging (Potter, 2010). Starting here, roses continue to be evident throughout history. The rose is present in Roman art, architecture, gardens, in rituals of both life and death, and at battles and related banquets (Potter, 2010). Many colors of roses serve as symbols. For example, a white rose symbolizes the Virgin Mary and a red rose symbolizes love, in history and today. As part of this project, the historical significance of selected roses was researched in order to highlight the important stories they have to tell and so this information can be taken into account during evaluations.

This project built on two past intern projects, “Evaluation and Assessment of Rose Health in the Rose Garden” and “Creating an Integrated Pest Management (IPM) Program for the . . . Rose Garden”. Both of these projects helped to increase the ease and accuracy of rose performance appraisal and record keeping. By adding the histories and other qualities of the roses, my project continued the work of past interns. The new qualities that were added included: flower color, number of petals, flower shape, fragrance, bloom frequency, cold hardiness, and parentage. This project also acknowledged the lack of information about the Rose Garden that is available to the public, and aimed to address this issue. This was accomplished through adding a Rose Garden webpage to the Morris Arboretum website. A link to the Collection Connection, a link to the self-guided tour of the Rose Garden, and information about the ten significant roses was also part of this webpage.

In order to highlight the significance of the genus, ten roses were researched. The roses were chosen based on five criteria: top performance (‘Chrysler Imperial’), historical significance (‘Kazanlik’), local association (‘Dr. Huey’, ‘Pink Knock Out’, *Rosa virginiana*), important breeder (‘Mme. Hardy’, ‘La Ville de Bruxelles’, ‘John Cabot’), or important namesake (‘Graham Thomas’, ‘Frederic Mistral’). The information discovered through the research of the roses was summarized and used to create ten metal labels to be placed in front of each rose in the garden.

METHODS

A one-page summary was written for each of the selected roses. The information was gathered from reputable internet sources, online articles and journals, as well as a selection of books. This information was then used to write summaries for the metal signs, as well as the self-guided tour text on the Morris Arboretum website. All drafts for the one-page summaries, sign paragraphs, and self-guided tour paragraphs were edited and approved by Arboretum staff. The information used to update the database was sourced from *Botanica’s Pocket Roses* by Susan Page in combination with reputable internet sources.

RESULTS

The database was successfully updated and placed onto the shared drive. A Rose Garden webpage was created with links to the Collection Connection, self-guided tour, and ten significant roses. The histories of the ten selected roses were researched and written, and are also available on the website. See Appendix A for the selected roses and the full histories. Ten metal signs were placed in front of the respective roses in the Rose Garden, presenting a summary of the importance of the rose, along with its introduction year and type of rose.

CONCLUSION

This project achieved all goals that were outlined in the introduction. First, a consolidated source of information about the Rose Garden was created for the public use, which should be updated as needed. Metal signs were created and placed into the garden for education of visitors. Ideally, this project will allow for easier access to information about the Rose Garden for the public. It will also increase the quality of rose evaluations for the overall improvement of the Rose Garden as a whole.

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APPENDIX A

***Rosa* ‘Chrysler Imperial’**

Winner of the All-American Rose Selections Award in 1953, an honor only bestowed on 4% of the roses tested, ‘Chrysler Imperial’ was introduced by Walter E. Lammerts. A renowned rose breeder, Lammerts earned his Ph.D, establishing a research facility at Armstrong Nurseries in 1935. Lammerts spent the next decade as a professor at the University of California, Los Angeles, establishing another plant research program at Descanso Gardens in La Canada, California. Like the opulent automobile, ‘Chrysler Imperial’ was a symbol of luxury and was one of the first roses to be part of promotional marketing officially associated with the Chrysler Corporation.

In 1954, the Chrysler Corporation, in cooperation with the city of Detroit, entered a float into the Tournament of Roses Parade. Its theme, “Life of the American Workman”, shared the same title as the Chrysler Corporation founder’s autobiography. Illustrating many of the products manufactured in the Detroit area such as planes, cars, and boats, the entire base of the float was a blanket of 25,000 ‘Chrysler Imperial’ blooms.

Recommended by the Philadelphia Rose Society as a low maintenance rose, ‘Chrysler Imperial’ is regarded as a classic example of a fragrant and disease resistant variety. Planted in Morris Arboretum’s Rose Garden in 1994, it has continued to be a proven performer.

***Rosa* ‘Dr. Huey’**

‘Dr. Huey’ is the primary rootstock for grafted roses due to its exceptional hardiness and ability to grow in a multiplicity of soil conditions.

This rose’s namesake is Dr. Robert Huey, a Civil War army veteran and professional dentist. In 1877, Huey was living on the rural edge of Philadelphia, gardening on two acres. Just across the Schuylkill River from Huey’s property were two botanical influences: Bartram’s Garden, the oldest botanical garden in the country, and David Landreth, one of the oldest seed producers in America. One of Landreth’s employees, William Buist, later became a gardener at the estate of William Hamilton, the Woodlands, whose garden was one of the first locations to display China roses when they were introduced to the U.S.

By breeding roses, Huey earned himself the reputation of a committed amateur. News of his status spread around the state, and new hybrids for him to trial would arrive in the mail from local nurseries. In 1898, Scott’s Roses of Sharon Hill sent Huey three hybrid tea roses that had been imported from Ireland and grafted onto Europe’s preferred rootstock, *Rosa canina*. To Huey’s surprise, these roses were more vigorous and hardy than the rest of his plants. Fueled by their success, Huey began studying the performance of rootstocks for North America. The results of Huey’s trials showed that *Rosa multiflora* flourished in many soil types and environmental conditions. Many large growers adapted Huey’s results of using *Rosa multiflora* for grafting due to his well-earned reputation.

Not only was Huey regarded as a rose specialist, but he was also known for being generous. His gift of fifty roses to his friend George Thomas, Jr. inspired Thomas to also become an amateur rose breeder. This hobby became Thomas’s priority, taking precedence over his dog

breeding, fishing, and his career as a golf course architect. In early June of 1919, Thomas invited Huey to see the introduction of Thomas's newest red climbing rose, 'Dr. Huey'. Although it was officially introduced in 1920, it was not until the 1950s that the research of large-scale nurseries confirmed this red climber as the best rootstock for grafting roses. Huey was not able to see the proliferation of his namesake rose because of his death in 1928, but his legacy lives on through Thomas's rose.

In the Rose Garden, 'Dr. Huey' is allowed to capture all of the attention as a red climber next to 'America' and 'Winner's Circle', since 1999.

***Rosa* 'MEItebros': FREDERIC MISTRAL rose**

This rose was introduced in 1993 by Alain Meilland, named a Great Rosarian of the World in 2012. He was the head of Meilland International, a six-generation, family-owned company known for its world-wide rose breeding reputation. With over 1,400 acres of nurseries around the world, Meilland International sells more than eight million roses a year and is known for its introduction of the Drift, Romantica, and Meidiland families of roses.

A French writer and poet, this rose's namesake won the Nobel Prize for Literature in 1904. As part of this accomplishment, Mistral is known for leading the revival and conservation of the Occitan, or Provençal, language in the 19th century. Being from a family of successful farmers, Mistral did not have to pursue a profession, and therefore dedicated his life to literature. He wrote both epic and lyrical poetry.

A new addition to the Rose Garden, 'Frederic Mistral' emits a strong fragrance as it blooms in flushes throughout the season.

***Rosa* 'AUSmas': GRAHAM THOMAS rose**

World-renowned rose breeder David Austin introduced this rose to the horticulture industry in 1983. All roses selected through his breeding program are required to have remarkable fragrance, the ability to bloom repeatedly, and disease resistant foliage. With one of the largest rose breeding programs in the world, David Austin breeds up to 150,000 seedlings yearly. Selected seedlings must survive up to eight years of field trials, where they must resist the disease pressures of a rose monoculture. With no spraying of pesticides, this environment prepares them for the best performance in the garden. 'Graham Thomas' is one of the top five English roses ever introduced and won the Royal Horticulture Society Award of Garden Merit in 1993.

This rose's namesake, Graham Stuart Thomas, is considered one of the world's greatest gardeners. Born in Cambridge, England in 1909, he was a plant enthusiast as early as age six when his godfather gave him a fuchsia. Thomas went on to attend free botany lectures at Cambridge University while weeding at the Cambridge Botanic Garden as a teenager. He was mentored by Gertrude Jekyll, the most appreciated gardener in the 1900s, who would quiz him on plants in her garden. As Thomas' horticultural expertise became well known, he was approached by the National Trust to become a consultant. He created plans for each garden, aiming to preserve the garden's history and minimize the maintenance required. In total, over 100 gardens display Thomas's influence in England, Wales, Ireland, and Scotland.

Thomas was dedicated to collecting and preserving old garden roses that were disappearing due to the breeding trend of showier, constantly blooming varieties. With

permission from the National Trust, he integrated his personal collection of roses in a formal garden mixed with herbaceous plantings at Mottisfont Abbey.

Accessioned in 2003, 'Graham Thomas' has continued to be a proven performer in the Rose Garden.

***Rosa* 'John Cabot'**

In 1978, this was the first climbing rose introduced as part of the Explorer series, bred in Ottawa, Ontario, Canada. All roses in this series are known for their disease resistance and extreme cold hardiness.

Dr. Felicitas Svejda, who was born in Vienna, Austria in 1920, is responsible for the majority of the Explorer rose introductions. After earning her Ph.D., Svejda moved to Canada in 1953. Her intent was to focus on cereal crops but her boss directed her to be a crop statistician instead. In 1961, Svejda was moved to the division of ornamental plants to work on breeding roses. Knowing almost nothing about the genus, Svejda was able to start from scratch, building her knowledge from scientific literature. She also valued the work of amateur rose breeders and would often visit them to see their current projects. She would make sure to share any of their techniques that she put into practice or the fates of any seedlings she was given.

This first Canadian national trial of ornamental shrubs lasted for 20 years, largely due to Svejda's persistence and complete focus on her project. This perseverance postponed the program's end several times.

The Royal National Rose Society in England awarded her a certificate of merit in 1985 for 'John Cabot'. Svejda officially retired a year later but continued her horticultural writings, speaking at conferences, and traveling.

'John Cabot' has performed well in the Morris Arboretum's Rose Garden since 1993.

***Rosa* 'Kazanlik'**

'Kazanlik' is best known for its historical and modern significance in producing rose oil in Bulgaria. Located in the foot of the Balkan Mountains, the town of Kazanlik is part of "Rose Valley". This valley has ideal environmental conditions for growing roses that produce high quality oil, including mild winters combined with plentiful rains in May and June. High quality flowers have a high percentage of oil, therefore fewer petals are required to make each kilogram of rose oil, resulting in a higher profit margin.

Distillation of rose oil in Bulgaria began around 1670. By 1805, the city of Kazanlik was processing 600 tons of rose petals, producing over one and a half tons of oil per year. The production of roses in Bulgaria is celebrated yearly in early June with the annual Rose Festival, which began in 1903. The main events include the early morning harvesting of roses and the parade through the streets. The two-day event is also filled with singing, dancing, and costumes made of roses.

Used in the perfume, cosmetic, and pharmaceutical industry, 'Kazanlik' is still vital in the production of rose oil. It is also used to grease space equipment because of its resistance to changes in temperature. Its medicinal properties include decreasing the symptoms of depression and increased skin health.

'Kazanlik' has proved to be a top performer with a delicious fragrance and beautiful, full blooms since it was accessioned at the Arboretum in 2005.

***Rosa* 'La Ville de Bruxelles'**

La Ville de Bruxelles translates to the City of Brussels, the capital of Belgium, but the reason for this namesake is unknown. Instead, the story of its breeder, who introduced this rose in 1849, deserves to be told.

La Ville de Bruxelles exemplifies the work of rose hybridizer, Jean-Pierre Vibert. In 1805, he lived nearby to the garden of Andre Dupont, the famed rose breeder of Empress Josephine, who encouraged Vibert's interest in roses. By 1813, Vibert had a small collection of roses near the city limits. Following the Napoleon's loss, Jacques-Louis Descemet, a fellow experienced rose breeder, had to flee the country, leaving Vibert with an opportunity to purchase and move Descemet's nursery stock to his own nursery at Chennevieres-sur-Marne. Containing 10,000 rose seedlings that represented over 250 taxa, this proved to be incredibly valuable due to the almost complete survival of these transplanted roses. Over the next 10 years, Vibert expanded his roses and breeding. In 1827, a plague of cockchafers on his current property caused Vibert to move to St. Denis, where he became one of the founding members of Societe d' Horticulture. Vibert moved all of his roses and over 250 fruit trees again in 1835, planning for retirement in Longjumeau, south of Paris. An outcry by his loyal customers prompted Vibert to suspend his retirement. Nature does not always abide by planning, and in 1839 Vibert moved twice more due to persistent cockchafer grubs. Finally ready to retire, he sold his business to his head gardener in 1851 and officially retired to the countryside of Monfont l' Amaury. Here he maintained his personal collection of roses and continued to write on the subject of horticulture for the next 15 years. Following Vibert's death in 1865, there was a legacy of publications on cockchafer beetles, roses, and grape-vines.

La Ville de Bruxelles has been part of the Rose Garden since 2005.

Rosa 'Mme. Hardy'

The fame and elegance of 'Mme. Hardy' should be envied by all, plants and people alike. Rose literature never fails to mention it, predictably complimenting it in every description. Many rosarians regard it as the most beautiful rose to ever grace history. It has won many awards and is a member of the Old Rose Hall of Fame, named by the World Federation of Rose Societies. In 1885, it was one of the top 26 roses according to a French journal, at a time when around 6000 rose varieties occupied the market.

Bred by Julien Alexandre Hardy, this Damask rose was first introduced in 1832. Although the Damask's parentage has been long debated, recent genetic testing has revealed that Damask roses have three parents: *Rosa moschata*, *R. gallica*, and *R. fedtschenkoana*.

Little is known about Hardy's wife and this rose's namesake, Marie-Therese Pezard. Hardy is most well known for being the chief gardener of the Jardin du Luxembourg in Paris. His main focus was breeding and caring for fruit trees, and was considered just an amateur rose breeder. However, 'Mme. Hardy' proves his expertise with the genus. Today, this rose is used in commercial production of rose oil and is still an important source.

'Mme. Hardy' is the Rose Garden's oldest rose, accessioned in 1989. It has lived up to its reputation, receiving high numbers in the monthly evaluations of the roses in the garden.

Rosa 'RADcon' THE PINK KNOCK OUT rose

The original 'Knock Out' rose was discovered by William Radler in Milwaukee, Wisconsin. When Radler was just nine years old, he used his minimal allowance to purchase his first rose, his interest sparked by his grandparents' Jackson and Perkins rose catalogue. As Radler became more engrossed in growing roses, he realized how much improvement the genus

needed, as it was susceptible to many diseases and was considered high maintenance. Years later, Radler earned his degree in landscape architecture and became the director of Boerner Botanic Gardens. He continued to breed roses as a hobby until later in life when he could do it full-time.

In his basement and backyard, Radler selected his rose seedlings based on characteristics he believed would produce the best mature plants. Radler made sure to spread disease by grinding up any leaves that were infected, spreading them over the seedlings, then making sure to overhead water to ensure spreading. As a result, only the resistant plants were selected as potential introductions. The first 'Knock Out' rose was grown in 1989, a cross between 'Carefree Beauty' and 'Razzle Dazzle'. After the 'Knock Out' rose survived the selection process of Radler's basement, Conard-Pyle began trialing the 'Knock Out' rose, and it entered commercial production in 2000.

The next two members of the 'Knock Out' family of roses to be introduced were 'Blushing Knock Out' and 'Pink Knock Out', the latter of which was discovered at the Morris Arboretum. Noticed in the parking lot by a staff member, 'Pink Knock Out' was a natural mutation of the original 'Knock Out' rose. Simultaneously, a staff member at Conard-Pyle also discovered a natural mutation of the original 'Knock Out' rose, which proved to be visually identical to the sport discovered at the Morris Arboretum. Officially co-introduced in 2004, the Morris Arboretum is part of the legacy of the 'Pink Knock Out' rose. In the Morris Arboretum, 'Pink Knock Out' roses have almost an entire quadrant of the Rose Garden dedicated to them.

Rosa virginiana

Known prior to 1724, *Rosa virginiana* is a species shrub rose, native to the eastern U.S. Specifically, its southern and western ranges are Alabama and Arkansas, respectively; its eastern range is Maine and its northern range reaches as far north as Ontario and Quebec. Found growing along coastlines, highways, and railroads, this rose is adaptable and salt tolerant. Of value to pollinators, it particularly attracts native bees. Not only does *Rosa virginiana* function as an attractive, ornamental shrub, but it also has a multitude of medicinal properties. Its seeds are a good source of vitamin E and the fruit provides a good source of vitamin C. The fruit can also be used in jams or steeped for tea.

Accessioned in 2003, *Rosa virginiana* has performed well and is located just outside the side entrance to the Rose Garden.